



ELECTRICAL CURRENTS

Newsletter from the Office of the Chief Electrical Inspector

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● When Will The 2002 National Electrical Code Be Adopted In Washington?

Any new version of the National Electrical Code (NEC) must be adopted through the electrical rules (WAC) process. The last meeting of the combined Licensing/Certification and Technical/Final Roll-up WAC development stakeholder workgroups is scheduled October 3rd in Tumwater. The proposed rule modifications will be presented to the Electrical Board at their October 31st meeting. The public hearings should be conducted in late November or early December. **The “target” effective date for the new rules and the 2002 NEC, is the first week in February 2003.**

The target effective date is so late in the 2002 NEC revision cycle that we will not be able to allow a transition period as we have in the past. Remember, it is not the “bid date” that determines the version of the Code or WAC that applies. All projects for which an electrical work permit is purchased after the WAC effective date will be inspected under the 2002 NEC. All projects received by electrical plan review after the WAC effective date will be reviewed under the 2002 NEC. All electrical examinations given after the WAC effective date will be based on the 2002 NEC.

The actual WAC effective date is thirty days after the Director of Labor and Industries signs the rules. As soon as it is determined, we will let our customers know the exact date in our field offices, this newsletter, and on our list server automatic e-mail notification system.

● How To Join Our List Server Automatic E-mail Notification System

We repeat this announcement often because the benefits of being a subscriber are great when it comes to keeping informed about the electrical industry in Washington. The electrical program has a one-way newsgroup (*Washington State Electrical Program Updates*) that allows all electrical stakeholders to receive automatic e-mail notification of publications, rules, training events, meetings, recruitments, and policy issues. In these e-mail notices, we send new issues of this *ELECTRICAL CURRENTS* newsletter as an attachment (usually in Adobe .PDF format) and hyperlinks to our Web site for most other publications. Subscribers to this service get first notice and immediate access to current versions of the electrical RCW and WAC, policy updates, stakeholder meeting announcements, and other pertinent information from the Electrical Program.

This is the fastest and easiest way for our electrical construction industry stakeholders to receive important current information from us. You enroll (or leave the list) yourself from the computer that you want to receive the e-mail. We do not sell or share your e-mail address with others. We do not retain your e-mail address if you decide to leave the list. We have 1100+ subscribers; we should have 30,000 to 40,000. Please give it a try. Staying in touch with changes in the code, laws, and rules can save you money and effort. New users should go to <http://listserv.wa.gov/archives/electrical.html> and click on **“Join or leave the list”**, then fill in the necessary information to subscribe.

● Ground Rods

Department electrical inspectors are still finding ground rods that have been cut off. The NEC is very specific in the requirement that *“rod and pipe electrodes shall not be less than 8 ft (2.44 m) in length.”*

RCW 19.28.111 states: *“It is unlawful for any person, firm, partnership, corporation, or other entity to install or maintain any electrical wiring, appliances, devices, or equipment not in accordance with this chapter.”* Cutting off a ground rod is a willful violation of this statute and Electrical Administrators and installers are subject to non-compliance citations for such actions.

NEC 250-52 (c)(3) (1999 edition) requires that ground rods *“be driven to a depth of not less than 8 feet (2.44m) except that, where rock bottom is encountered, the electrode shall be driven at an oblique angle*

not to exceed 45 degrees from the vertical or shall be buried in a trench that is at least 2½ ft. (762mm) deep.”

The requirement is that the rod be driven to a depth of 8 feet. If the rod **cannot be driven** then there is a choice of either driving it at a 45-degree angle or laying it in a trench that is not less than 2½ feet deep.

In the 2002 edition of the NEC, this issue is clarified in Article 250.53(G). This article establishes detailed ground rod installation requirements in the following order or priority. (1) A ground rod must be driven 8 feet (2.44 m) deep, except that; (2) If rock bottom is encountered, it may be driven at a 45-degree angle from vertical, or; (3) If rock bottom is encountered driving the rod at a 45-degree angle from vertical, then (and only then) it can be buried in a 30-inch (750 mm) deep trench.

● New Training Certificates With No “Year” Designation

The typical 1st, 2nd, 3rd, and 4th year electrical training certificates that have been issued since 1974 will soon be obsolete. Engrossed Senate Bill 6630, successful in the 2002 legislative session, established two new electrical specialties and created training changes in some of the existing electrical specialties. New certificates will be issued at the normal renewal date of the existing training certificates.

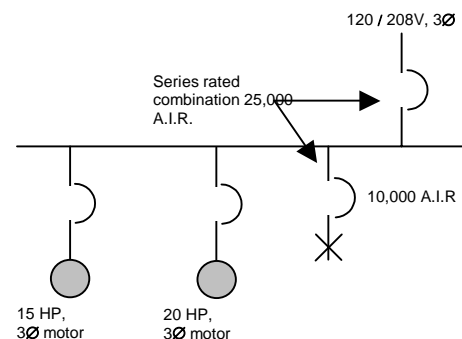
- Under the new system, there will be a “normally supervised” training certificate for 01 work, and 02, 03, 04, 06, 07, and 07C specialty work that is no different from the previously enforced requirements, except there will be no “1st, 2nd, 3rd, or 4th year” designation on the card.
- A new training status will indicate “100% supervision” is required in the 03A, 06A, 07A, 07B, 07D, and 10 specialties until individuals obtain qualifying experience (720 hours minimum) to take the specialty examination and successfully pass it.
- Trainees that pass the 03A, 06A, 07A, 07B, 07D, or 10 exam will apply for an “unsupervised” training certificate that will allow work (within the proper specialty) without supervision until the full training period (2000 hours minimum) is complete. This certificate is issued once and is not renewable. If the individual has not completed the 2000 hours of experience within 24 months of their initial start of training date, they will revert to “normally supervised” training status.

ESB 6630 also extended the renewal period for electrical training certificates from one year to two years. When the new WAC rules are effective Affidavits of Experience will cover up to two years of work experience and should be submitted at the time of certificate renewal. An additional processing fee will be required when Affidavits of Experience are submitted between renewal periods.

● Electrical Question of the Month

This Month’s Question: Does the following installation comply with the motor contribution limitations of a series rated system found in NEC 240.86(B)? [2002 NEC]

- A) Yes, the total motor contribution is less than 1% of the lower-rated circuit breaker.
- B) Yes, the total motor contribution is less than 1% of the higher-rated overcurrent device.
- C) No, the total motor contribution is more than 1% of the lower-rated circuit breaker.
- D) No, the total motor contribution is more than 1% of the higher-rated overcurrent device.



Last Month’s Question: A bonding jumper not smaller than ____ copper or equivalent shall be connected between the communications grounding electrode and power grounding electrode system at the building or structure served where separate electrodes are used? A) #12, B) #8, C) #6, D) #4. **The answer is: C) #6** (copper or equivalent) [1999 NEC 800-40(d), 2002 NEC 800.40(D)]